



# The SUSTAINABLE Plate

## **SUST 2003: THE SUSTAINABLE PLATE**

Tuesdays 1-3:30 pm, MPA 305

Evening lectures: February 9<sup>th</sup> and March 3<sup>rd</sup> from 7-8:30 pm in Jack Morton Auditorium  
January 11<sup>th</sup>, 2016 to April 25<sup>th</sup>, 2016

*Faculty: Kathleen Merrigan, Jose Andres, Kim Robien, David Rain, and Joe Glauber*

*Course contributors: Abby Wilkerson and Ariel Kagan*

*Teaching Assistant: Laura Popielski*

### **COURSE DESCRIPTION**

The course will focus on how our dietary choices affect not only our health but the environment and those involved in the production of food. In this class we will explore the sustainable plate— how does dinner affect the future of the environment, economy, and society— from an interdisciplinary perspective. Food is a topic which can be explored from a variety of fields, from policy to public health and business to international affairs. We will begin by investigating the USDA MyPlate recommendations for daily nutrition, and from there develop a discussion about the future of food and how to create a sustainable food system.

Undergraduates from any school are eligible for this course. There is no prerequisite.

## MEET THE TEAM

*This course is a team-taught course featuring faculty experts from different GW schools.*

**Kathleen Merrigan** is a Professor in the Trachtenberg School of Public Policy. She is the Executive Director of Sustainability for George Washington University. Prior to GW, Merrigan was U.S. Deputy Secretary and Chief Operating Officer of the U.S. Department of Agriculture. As Deputy Secretary, Merrigan created and led the Know Your Farmer, Know Your Food Initiative to support local food systems and was a key architect of First Lady Michelle Obama's "Let's Move!" campaign.

**Chef Jose Andres** is an internationally recognized culinary innovator, passionate advocate for food and hunger issues, author, educator, television personality and chef/owner of ThinkFoodGroup. He owns many restaurants in the DC area including Jaleo, Beefsteak, Oyamel, and Zaytinya. He also serves as Special Food Advisor to GW President Steve Knapp. Among his many honors and recognitions, Chef Andres was named one of the 100 most influential people in the world by Time magazine in 2012, and "Outstanding Chef" by the James Beard Foundation in 2011.

**Kim Robien** is an Associate Professor in the Milken School of Public Health. Her research focuses on nutrition in relation to cancer prevention and survivorship. She is also interested in food access, environmental nutrition and sustainable food systems, and to the extent to which exposure to pesticides, synthetic fertilizers and other chemicals through food and water may contribute to risk of cancer and other chronic diseases.

**David Rain** is an Associate Professor of Geography and the Director of the Environmental Studies program in the Columbian College of Arts & Science. His areas of interest include urban and population geography, economic development, nature and society, and GIS. He has worked since 1998 in Ghana to create geospatial capacity to answer questions about the role of residential and work locations in exposing people to environmental risks.

**Joe Glauber** is a Senior Research Fellow at the International Food Policy Research Institute (IFPRI). Prior to joining IFPRI, Glauber spent over 30 years at the US Department of Agriculture including as Chief Economist from 2008 to 2014. As Chief Economist, he was responsible for the Department's agricultural forecasts and projections, oversaw climate, energy and regulatory issues, and served as Chairman of the Board of Directors of the Federal Crop Insurance Corporation.

**Laura Popielski** is a full-time graduate student at the Milken Institute School of Public Health, working on her Masters of Public Health, with a concentration in Nutrition. Originally from Buffalo, NY, Laura holds two Bachelor's degrees; one in Studio Art/Photography and one in

Community Health/Nutrition. In the past, Laura has been a Program Manager for GardenShare; a food insecurity focused non-profit organization in Northern New York State. She also managed the Potsdam Farmers' Market and taught an undergraduate course titled "Current Topics in Nutrition" at SUNY Potsdam. Being a foodie and amateur cook, Laura's heroes are Michael Pollan, Mark Bittman, Kristen Kimball, and Anthony Bourdain.

**Laura can be reached at: [laurapope@gwmail.gwu.edu](mailto:laurapope@gwmail.gwu.edu)**

**Ariel Kagan** is the Sustainability Student Advisor for the GW Sustainability Collaborative. She has a background in agriculture and food systems and has previously worked on a French dairy farm and a Canadian fishing wharf. Ariel holds a BA in Economics from Mount Holyoke College and a Master's in Food and Resource Economics from the University of British Columbia, Vancouver.

**Abby Wilkerson** is a philosopher teaching in the University Writing Program. Her food-related publications include *The Thin Contract: Social Justice and the Political Rhetoric of Obesity* (forthcoming) and articles and chapters on various dimensions of social justice in the context of food. This summer (first session) Prof. Wilkerson's will teach UW 2020, "Words of Change: Gender, Food Justice, and Food Movement Rhetorics," a WID course. Her current UW 1020 course, "Composing Disability: Crip Ecologies," (like the April 2016 GWU conference from which it takes its name) brings together work across the fields of ecocriticism, disability, and queer studies.

## **LEARNING OBJECTIVES**

The purpose of this course is to provide students with an understanding of the themes, concepts and tools appropriate for an examination of food systems. As a result of completing this course:

- Students will be able to describe and define what is meant by the terms "sustainable agriculture," "food security," and "food system" from an interdisciplinary perspective.
- Students will be able to understand the challenges to creating a sustainable food system at the local, national and global scale.
- Students will be able to use interdisciplinary skills (i.e. natural science, social science, business) to understand how food affects society, the environment and the economy.
- Students will be able to understand interdisciplinary approaches to problem solving around critical issues in food systems, and participate effectively in a group of learners.
- Students will be able to understand how food is impacted by policy, culture and business, and how these shape the national and international dialogue about food and farming.

## EVALUATION

Attendance and participation are essential for success in this course. Students are expected to come to class each week having completed the readings and prepared for class discussion. Final grades will be based on the completion of the following:

- **Class participation: 15%**  
Not everything in class is covered by the course readings so missing class can be problematic. You are expected to attend all classes, including the two special evening sessions. If you are unable to attend for some reason, please notify the Teaching Assistant, provide an explanation, and make arrangements to review the work covered.
- **Midterm exam: 25%**  
The exam will take place in-class, March 8. The TA will schedule a review session prior to the exam.
- **Final paper: 20%**  
The final paper assignment will be based on the core book for this class – The Third Plate. Details about the assignment will be posted on Blackboard once the class is underway. This final paper will be due at the last class, April 19.
- **Final exam: 40%**  
The final will be scheduled by the Registrar sometime early in the spring semester. You may *not* reschedule the exam to accommodate travel preferences. It is GW policy that you are not to purchase travel tickets until after your exams and if you need to make travel plans before the dates are announced, you must schedule travel after the full exam period. The TA will schedule a review session prior to the exam.

## CLASS POLICY

Grading Criteria: Your mastery of the course materials will be measured through the quality of your critical reading and writing skills and your ability to communicate clearly in the exams. Should you have a dispute with any grade, you must discuss this with Professor Kathleen Merrigan ONLY. The Teaching Assistant is not authorized to adjust or re-grade assignments or exams.

Late and/or missing assignments: If you have a legitimate reason for missing an exam, or handing in the paper assignment later than the deadline, we are happy to accommodate you, provided you submit a doctor's note, or if the matter is personal, a note from the Dean of Students. This is the only way late work will be excused.

Academic Integrity: Students in this course are expected to adhere to GW standards of academic integrity. According to GW, "Academic dishonesty is defined as cheating of any kind,

including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and fabrication of information." Find more about [the Academic Integrity code at GW](#).

Accommodations: Any student who feels s/he may need an accommodation based on the impact of a disability should contact Prof. Merrigan privately to discuss specific needs. Please contact the Office of Disability Support Services at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to <http://gwired.gwu.edu/dss>.

#### University Policy on Religious Holidays (per GWU policy)

Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance

1. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations
2. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities

The listing of Religious Holidays can be found on the Provost's website under Resources: <http://provost.gwu.edu/policies-procedures> For a listing of all University Academic Policies, go to: <http://registrar.gwu.edu/university-policies>

The Care Network (UCC) 202-994-5300 Marvin Center, Ground floor

The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations confidential assessment, counseling services (individual and small group), and referrals. <http://counselingcenter.gwu.edu/>

#### Security

In the case of an emergency, the class should shelter in place if at all possible. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.

Use of Blackboard: As a sustainability course we strive to be sustainable in practice. Therefore, we are limiting printing of course materials. The syllabus and schedule are online. Blackboard will give you access to a class email list, your course grade, announcements, certain course readings, and other course information. For more detailed information about how to navigate the course, the technology requirements, and other administrative support, please see the HELP button on the Blackboard course page.

## **BOOKS & OTHER READINGS**

A copy of each book listed below has been placed on reserve at Gelman Library. The GW Bookstore should have copies for purchase. All books are available in softcover.

Dan Barber, [The Third Plate: Field Notes on The Future of Food](#), 2014.

Paul Greenberg, [American Catch: The Fight for Our Local Seafood](#), 2014.

Other required readings will be posted on the Blackboard course site and/or are hyperlinked from this syllabus. As well, optional readings and resources will be posted on Blackboard to assist students who choose to explore content beyond what we cover in 2003.

## CLASS SCHEDULE AND ASSIGNMENTS

### **JAN 12: INTRODUCTION TO FOOD SYSTEMS AND THE CONCEPT OF A SUSTAINABLE PLATE**

*What do people mean when they use the term “food system” and how will we apply this concept in our course? While there may be widespread agreement that our current food system is unsustainable, there is little agreement as to what to do about it. Your course instructors have different backgrounds, disciplines, and perspectives. Hear how they define a “sustainable plate” and their ideas on how to advance sustainability through food.*

All Faculty

- Read: Dan Barber, [The Third Plate](#), Introduction (22 pages total, pay particular attention to pages 10-18)
- Explore: [USDA MyPlate website](#)
- Watch: [Slate Magazine video on release of My Plate food icon](#), 1:52 minutes
- Read: Michael Hamm & Richard Pirog, “Focus 1.2. Food in the Food System,” in [Introduction to the U.S. Food System](#), Roni Neff editor, 2015, 2 pages (Blackboard).
- Read: “[Chapter 1: Eco-Agri-Food Systems](#)” of [TEEB for Food and Agriculture Interim Report](#), Dec. 2015, 12 pages

### **JAN 19: FRUIT & VEGETABLES**

*What should be on our plate for reasons of health & nutrition? Are all fruits and vegetables equally healthy, accessible, and affordable? What about pesticide residues? What is the government’s role in setting the table?*

Professors Kim Robien and Kathleen Merrigan

- Read: Tilman and Clark, “Global diets link environmental sustainability and human health,” *Nature*, Nov. 2014, 4 pages (Blackboard)
- Read: Joanne Guthrie and Biing-Hwan Lin, “[Healthy Vegetables Undermined by the Company They Keep](#),” Amber Waves, May 2014, 4 pages
- Read: “[How much do fruits and vegetables cost?](#)” June 2015, a website summary of research work by ERS/USDA
- Watch: [Pesticide risk in fruits and vegetables](#), March 2015, 3:33 minutes
- Scan: [Food Environment Atlas, USDA](#)

## JAN 26: FRUIT & VEGETABLES

*What fruit and vegetable production is most sustainable and why? How much alignment is there between health/nutrition and ecological goals? If tomorrow all Americans woke up and decided to eat a healthy diet, as recommended by the government, would there be enough fruits and vegetables to feed us all?*

Professors Kim Robien and Kathleen Merrigan

- Read: Jean Buzy et. al., “[Possible Implications for U.S. Agriculture From Adoption of Select Dietary Guidelines](#),” USDA/ERS, Nov. 2006, 27 pages
- Listen: [Bananas: The Uncertain Future of a Favorite Fruit](#), NPR Fresh Air, Feb. 2008, 32:02 minutes
- Scan: CNN, “[Why bananas as we know them may go extinct \(again\)](#),” Oct. 2015
- Read: Barber, [The Third Plate](#), Chapter 30, 26 pages.
- Read: [Trade in fruits and vegetables](#), ERS, Oct. 2012, 1 page
- Watch: “[The Impact of Technology on Smallholder Farmers](#),” DuPont, Nov. 2015, 3:43 minutes

## FEB 2: GRAINS & PULSES

*What are commodity grains and how important are they to our food system? Does corn feed the world? Does rice? How much grain goes to livestock versus people? The United Nations has declared 2016 as the International Year of Pulses – can you name some pulses and explain their potential role in sustainability?*

Dr. Joe Glauber and Professor Kathleen Merrigan

- Read: FAO, “[Food Outlook Biannual Report on Global Food Markets](#),” Oct. 2015, pages 10-31
- Read: Aziz Elbehri, “The Changing Face of the U.S. Grain System: Differentiation and Identity Preservation,” ERS, Feb. 2001, 28 pages (Blackboard).

- Read: William McBride & Catherine Greene, "[Despite Profit Potential, Organic Field Crop Acreage Remains Low](#)" Amber Waves, Nov. 2015, 4 pages
- Read: Barber, [The Third Plate](#), Chapters 25-28 (46 pages)
- Read: "[Valuation of Rice Agro-Ecosystems](#)," Appendix II of [TEEB for Food and Agriculture Interim Report](#), Dec. 2015, 7 pages
- Watch (optional), 2:23 minutes: [FAO rice video shown at Milan Food Expo](#), June 2015
- Scan: "[Meet Pulses](#)" [promotional brochure](#), Dec. 2015, from [www.IYP2016.org](#)
- Watch: FAO, "[What are pulses and why are they important crops for food security?](#)" Nov. 2015, 2 minutes

## FEB 9: THE RESTAURANT PLATE

### AN EVENING EVENT FEATURING CHEF JOSE ANDRES

What role do restaurants play in the American diet? As more people consume meals away from home, what is the impact on our health and the environment? Explore the DC restaurant scene, hear about new restaurant trends, and learn about the role chefs play in promoting sustainable and healthy eating. Professor Abby Wilkerson will moderate our session. (READINGS TBD)

## FEB 16: MEAT

*Would you eat dog or lion? How important is animal protein in the diet? As developing countries gain wealth, there is a corresponding diet change that includes increased livestock consumption. What are the implications for sustainability?*

Professors David Rain and Kathleen Merrigan

- Read: Barber, [The Third Plate](#), Chapters 10-12, 40 pages.
- Read: FAO, [State of Food and Agriculture, Livestock in the Balance](#), Chapter 2, "[Change in the livestock sector](#)," 2009, 23 pages
- Read: Julie Urbanki, [Placing Animals, An Introduction to the Geography of Human-Animal Relations](#), Chapter 5, 2012, 28 pages, (Blackboard)
- Watch: [The Meatrix](#), videos, the Original, 3:47 minutes and [the Meatrix II](#), 4:09 minutes
- Scan: FAO, [Meat Consumption](#), Nov. 2014, 1 page
- Scan: [OECD Meat Consumption](#), 2016, 1 chart
- Read: Brent Kim, et. al., "[The Importance of Reducing Animal Product Consumption and Wasted Food in Mitigating Catastrophic Climate Change](#)," Johns Hopkins, Dec. 2015, 4 pages



## FEB 23: SEAFOOD & AQUACULTURE

*To what extent do we overfish? What fish choices support sustainability? Does it matter if its wild caught or farmed? Are Americans shrimp obsessed?*

Professor Kathleen Merrigan and Sustainability Student Advisor Ariel Kagan

- Scan: NOAA, "[Status of Stocks 2014, Annual Report to Congress on the Status of U.S. Fisheries](#)", April 2015
- Read: Paul Greenburg, [American Catch](#), Introduction, Shrimp, Conclusion, 103 pages
- Watch (optional): "[The four fish we're overeating and what to eat instead](#)". TED talk by Paul Greenberg, Oct. 2015, 14:24 minutes
- Read: Barber, [The Third Plate](#), Chapters 14, 15, 17, 20 (about 40 pages)
- Watch (optional): "[How I fell in love with a fish](#)", TED talk by Dan Barber, Feb. 2010, 18:55 minutes

## MARCH 3: FOOD AS CULTURE

### AN EVENING EVENT FEATURING CHEF JOSE ANDRES

Discuss food as culture with Chef Andres and Ambassadors – how do various cultures think about and interact with food? How important is culture to how we eat? Is it possible to generate cultural shifts that support the sustainable plate? Professor Abby Wilkerson will moderate our discussion. (READINGS TBD)

## MARCH 8: OILS & FATS (one hour discussion)

*Are you fond of good tasting, super-sized foods? Some claim there has been a transformation of food into an industrial product – what do you think? Around campus one student club has posted signs decrying palm oil. What are the advantages and disadvantages of this oil? We will have a short discussion before the exam. Today's readings will not be included in the midterm.*

Professor Kathleen Merrigan

- Read: Michael Moss, [Salt Sugar Fat: How the Food Giants Hooked Us](#), Chapters 7 & 8, 2014, 36 pages (Blackboard)
- Read: CSPI, "[Cruel Oil: How Palm Oil Harms Health, Rainforest, and Wildlife](#)," 2009, 30 pages

**\*\*In-class midterm exam** (90 minute blue book)

## MARCH 15: SPRING BREAK, NO CLASSES

## MARCH 22: DAIRY

*Can you imagine Old McDonald with 8,000 dairy cows? Most dairies milk three times daily, 365 days a year. What is the lifestyle like, who does the work, and is there a better way? New to many groceries is milk with grass-fed labels. Is this worth the premium price? Milk consumption is in decline – what does this mean for sustainability?*

Dr. Joe Glauber and Professor Kathleen Merrigan

- Read: James McDonald and Dorris Newton, "[Milk Production Continues Shifting to Large-Scale Farms](#)," Amber Waves, USDA/ERS, Dec. 2014, 2 pages
- Read: William McBride and Catherine Greene, "[Organic Dairy Sector Evolves to Meet Changing Demand](#)," Amber Waves, ERS/USDA, March, 2010, 3 pages
- Skim: Hayden Stewart, et.al., "[Why Are Americans Consuming Less Fluid Milk? A Look at Generational Differences in Intake Frequency](#)," ERS/USDA, May 2013, 22 pages
- Watch: "[Milk with Dignity](#)," 7 minutes
- Watch: "[How Robots Are Saving the Dairy Farm](#)," Bloomberg, March 2015, 5:12 minutes
- Read: Charles Benbrook, et. al, "[Organic Production Enhances Milk Nutritional Quality by Shifting Fatty Acid Consumption: A United States-Wide 18 Month Study](#)," Plos One, Dec. 2013, 8 pages
- Watch: Organic Valley, "[Restoring Balance: the WSU Story](#)," Dec. 2013, video, 4:34 minutes
- Watch: "[Poop to Power: How a Florida dairy farm turns cow manure into electricity](#)," Fox 13 News, Oct. 2013, 4:54 minutes

## MARCH 29: SOILS

*Healthy soils are the basis for healthy food production. While there has been great improvement since the Dust Bowl, soil erosion remains a food and environmental security threat. How important is soil to combating climate change and what can we do to protect our soils. As the bumper sticker says: stop treating our soil like dirt!*

Professor David Rain

- Read: FAO, [Status of the World's Soil Resources](#), Chapters 1, 2, and 6, 68 pages
- Watch: FAO, [Soil 101 video](#), April, 2015, 2:27 minutes
- Watch: FAO, [Soils, our ally against climate change video](#), July, 2015, 2:29 minutes
- Read: Barber, [The Third Plate](#), Chapters 1-6, 74 pages
- Scan: FAO Infographic: [Soils Store and Filter Water](#), May 2015
- Watch: NRCS/USDA, [The Science of Soil Health: Soil Feeds Plants, and Vice Versa](#), July 2014, 3:08 minutes

## APRIL 5: WATER

In this class we will learn more about why agriculture uses more than 70% of consumptive water, contemplate the impact of the drought and climate change on production, figure out what we should know about drinking bottled versus tap water. Finally, we will explore how water politics could define the future of American agriculture.

Professor Kathleen Merrigan

- Read: Michelle Tom et. al., “Energy use, blue water footprint, and greenhouse gas emissions for current food consumption patterns and dietary recommendations in the U.S.,” Environment Systems and Decisions, Nov. 2015, 10 pages (Blackboard)
- Watch: TapIT, “[8 Reasons to Choose Tap Water](#),” Aug. 2014, 0:59 minutes
- Scan: USGS/Interior, “[Irrigation for Agriculture](#),” 2010, 2 pages
- TBD, additional readings to be assigned.

## APRIL 12: HUNGER AND OBESITY

*It has been described as the “hunger-obesity paradox.” How can both conditions co-exist? Can we feed a growing world population healthy food produced in a sustainable way?*

Professor Kim Robien and Dr. Joe Glauber

- Read: FAO, “[How to Feed the World in 2050](#),” Oct. 2009, 35 pages
- Read: Global News, Aug. 2015, 1 page: “[Lack of proper access to food costs the health care system](#)”
- Read: Food Research & Action Center, “[Understanding the Connections: Food Insecurity and Obesity](#),” Oct. 2015, 5 pages
- Read: H. Charles Godfray, “The Debate Over Sustainable Intensification,” Food Security, March 2015, 17 pages. (Blackboard)
- Watch: “[Hunger? Obesity? How to Choose Global Health Priorities](#),”
- Watch: “[Feed People, Not Landfills](#)”, EPA, Nov. 2014, 2:54 minutes

## APRIL 19: THE SUSTAINABLE PLATE

*Would you advise the President and Secretaries of HHS and USDA to include sustainability as a factor in designing dietary guidance? Do we know enough? Is our food system able to adjust for greater sustainability, and if so, what is the cost-benefit*

*analysis of doing so? Are people ready to shift diets for sustainability? Where do we go from here?*

All Faculty

- Read: Barber, [The Third Plate](#), Epilogue, 23 pages
- Not yet published: "[The 2015 Dietary Guidelines for Americans](#)", Jan. 7, 2016:
- Read: Merrigan and Griffin, "[Building a case, over time, for adding sustainability to nutritional guidelines](#)," The Conversation, Oct. 2015, 1 page
- Read: Merrigan et al., "[Designing a Sustainable Diet](#)," *Science*, Oct. 2015, 2 pages